

1986

Maternal self-esteem and the ability to tolerate infant autonomy.

Rachel Wilhelm Bush
University of Massachusetts Amherst

Follow this and additional works at: <https://scholarworks.umass.edu/theses>

Bush, Rachel Wilhelm, "Maternal self-esteem and the ability to tolerate infant autonomy." (1986). *Masters Theses 1911 - February 2014*. 2114.

Retrieved from <https://scholarworks.umass.edu/theses/2114>

This thesis is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Masters Theses 1911 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

UMASS/AMHERST



312066014735236

MATERNAL SELF-ESTEEM AND THE ABILITY
TO TOLERATE INFANT AUTONOMY

A Thesis Presented

By

Rachel Wilhelm Bush

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE

September 1986

Department of Psychology

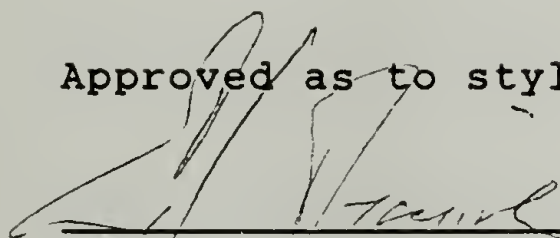
MATERNAL SELF-ESTEEM AND THE ABILITY
TO TOLERATE INFANT AUTONOMY

A Thesis Presented

By

Rachel Wilhelm Bush

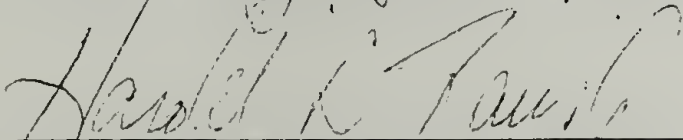
Approved as to style and content by:



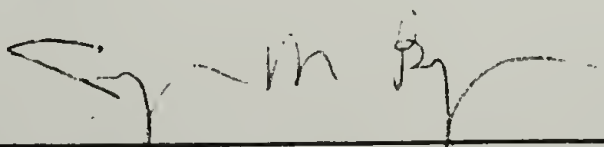
Edward Z. Tronick, Chairperson of Committee



Ronnie Janoff-Bulman, Member



Harold L. Raush, Member



Seymour M. Berger, Department Chair
Department of Psychology

ACKNOWLEDGEMENTS

I would like to express my appreciation to Ed Tronick, my advisor and chairperson for his encouragement, guidance and support during the past two years. I would also like to thank my committee members Ronnie Janoff-Bulman and Harold Raush for sharing their ideas and time with me. I also wish to extend my thanks to Andy Gianino and Ted Plimpton for allowing me to collaborate with them and work with the 52 baby videotapes. Special thanks to my research assistants Wendy Copes and Christa Chapman for their help and commitment to this project. I would also like to acknowledge Karl Schmidt for his assistance with the data analysis. Finally I would like to express my appreciation to Gilda, Steve, David, Katherine and Clair for their insights and friendship.

TABLE OF CONTENTS

ACKNOWLEDGEMENTSiii
LIST OF TABLES	vi
Chapter	
I. INTRODUCTION	1
The Mutual Regulation Model	1
Maternal Self-Esteem	4
Autonomy	8
Hypotheses	13
Definitions	16
II. METHOD	18
Subjects	18
Setting and Materials	18
Procedure	19
Coding of Data	19
Reliability	24
IV. RESULTS	25
Summary Data	25
Correlations between the MSI Subscales and Overall MSI Scores	25
Correlations between the MSI and Maternal Sensitivity	27
Correlations between the MSI and Maternal Affect	30
Correlations between the MSI and Infant Averts	30
Correlations between the MSI and Maternal Solicits	34
Correlation between the MSI and Sharing the Infants Focus	36
Maternal Affect	36
V. DISCUSSION	49
Maternal Self-Esteem.	49
Sex Differences	50
Maternal Affect	52
Recommendations for Future Research	54
.	
REFERENCES	56
APPENDIX A	60

APPENDIX B	73
APPENDIX C	81
BIBLIOGRAPHY	84

LIST OF TABLES

1.	Summary Data from Maternal Self-Report Inventory.....	26
2.	Pearson Product-Moment Correlations between MSI Subscales and Overall MSI Scores.....	28
3.	Pearson Product-Moment Correlations between MSI Scores and Maternal Sensitivity Ratings.....	29
4.	Pearson Product-Moment Correlations between MSI Scores and Maternal Affect Ratings.....	31
5.	Proportion of Maternal Happy, Neutral and Tense Affect Ratings.....	32
6.	Pearson Product-Moment Correlations between MSI Scores and Infant Averts.....	33
7.	Pearson Product-Moment Correlations between MSI Scores and Maternal Solicits.....	35
8.	Pearson Product-Moment Correlations between MSI Scores and Maternal Focus Codes.....	37
9.	Proportion of Infant Looking at Mother and Proportion of Maternal Shared and Alternate Focus States.....	38
10.	Pearson Product-Moment Correlations between MSI Scores and Maternal LMS.....	39
11.	Pearson Product-Moment Correlations between Maternal Affect Ratings and Maternal Sensitivity Ratings.....	40
12.	Pearson Product-Moment Correlations between Maternal Affect Ratings and Infant Averts.....	42
13.	Pearson Product-Moment Correlations between Maternal Affect Ratings and Maternal Solicits.....	44
14.	Pearson Product-Moment Correlations between Maternal Affect Ratings and Maternal Focus Codes.....	46
15.	Pearson Product-Moment Correlations between Maternal Affect Ratings and Maternal LMS.....	47

C H A P T E R I

INTRODUCTION

There is evidence to suggest that women who have made a smoother adaptation to motherhood and have developed greater maternal self-esteem, tend to be more sensitive and appropriate with their infants (Tronick, Cohn & Shea, 1986). In turn, mothers who allow their infants to take the lead and be the "signal givers" provide an interpersonal context in which the infants' feelings of competence and voluntary control over the environment become realized (Brazelton & Yogman, 1986). This evidence has lead researchers on infant emotional development to focus on the relation between maternal self-esteem and the infant's developing sense of effectance and burgeoning autonomy. Thus to clarify the relation between maternal self-esteem and the infant's, it is necessary to first examine possible relations between maternal self-esteem, sensitivity, affect and behavior during early mother-infant interactions.

The Mutual Regulation Model

Early mother-infant social interaction has been described as a dyadic system in which the exchange of affective messages between the interactants allows for one interactant to achieve his or her goals in coordination with those of the other interactant (Tronick, 1980). According to the Mutual Regulation Model (MRM), infants exert

control over the interaction and help to regulate engagement by responding to maternal affective displays in a manner which is specific to that affect (Cohn & Tronick, 1982; Stern, 1985).

The MRM examines the organization of an infant's internal affective state in the interpersonal context of the dyadic relationship. That is, the MRM is two sided for it has both an other and self-directed focus simultaneously. Specifically, on the other directed side, the MRM argues that the infant's interactive capacities are in part dependent upon the organization of the mother's behavior. Mothers who respond sensitively and appropriately to their infants' interactive behaviors (affective expressions) provide a social environment in which their infants have the opportunity to engage in a wide variety of interactive behaviors, and become more successful social partners. On the internal side, infants develop the ability to successfully regulate their own affective and physiologic states. Brazelton & Yogman (1986) suggest that:

"The responses of the infant's neurological and physical systems are at the core of any development of emotions. The immaturity of these systems place obvious restraints on development, but their experiential maturation forms the base for future emotional experience. The capacity for self-regulation may even be a marker of the linkage between the infant's core affective displays (e.g., facial expressions) and inner affective experiences. As infants "learn" to cope with a stimulus from the outside world, they experience a sense of achievement and the feedback system that is activated may give them an inner

representation of mastery." (p.2) .

The MRM with its two sided focus argues that an infant's sense of agency and affectivity is dependent upon the infant's interpersonal experiences. Chodorow (1978) suggests that the infant's earliest experience is in the context of, and proceeds out of an interpersonal relationship to its mother. How the mother interacts in turn affects the infant's sense of effectance: The sense of what he or she can and cannot accomplish (White, 1959). Similarly Winnicott (1965) proposes that the development of the self is relational and depends upon a good relationship between infant and mother. He describes the development of the "true self" as an outgrowth of experiencing oneself as an effective emotional and interpersonal agent. This occurs when the mother provides an appropriate "holding environment" for her infant and has been supportive in the regulatory process. Sensitive mothers help their infants to act in a self-directed fashion, whereas infants who do not experience sensitive mothering need to use more of their own resources to self-regulate.

Crittenden & Bonvillian (1984) suggest that maternal sensitivity is a multidimensional construct which includes: positive affect, responsiveness, contingency and cooperativeness. In order to develop a greater understanding of maternal sensitivity it is useful to focus

upon affective communication. Trevarthen (1984) argues that the study of affective communication in the formation and maintenance of relationships can help us understand empathic communication between persons. Emde (1984) also focuses upon emotional expressions and proposes that they are the "language of infancy." Brazelton & Yogman (1986) suggest that emotional displays of the infant and mother are message carrying displays. Winnicott in his discussion of the significance of early mother-infant interactions, (1971) maintains that it is essential for mothers to be confident in their mothering abilities in order to be sensitive and provide security with physical and emotional nurturance. By being more empathic, mothers become external regulators of the infant's behavior rather than mere providers of stimulation.

Maternal Self-Esteem

Sullivan (1953) has suggested that self-esteem makes it easy to manifest good feelings towards others. "...It remains clear that self-esteem refers to a complex ego state with profound affective, self-regulatory, and self-evaluative dimensions." (Mack, 1983, p. 21). In considering how self-esteem comes into the MRM, it is important to specify that the mother is affected by both historical and social factors that modify her self-esteem and in turn her interactions with her infant. When these

factors are positive, the mother's sensitivity to her infant is increased; while if they are negative, her behavior is disrupted and less sensitive. This disruption follows directly from the formulation that increases in anxiety are likely to disrupt complicated behavioral tasks, and interacting with an infant is indeed a complicated task (Tronick, Cohn & Shea, 1986). Since the child's sense of effectance is structured during social interaction, any factor such as maternal personality or stress that modifies how the mother interacts and responds to her infant in turn will affect the infant's sense of effectance.

Shea (1982) defines maternal self-esteem as a mother's feeling of competence and acceptance of herself as a mother. Women who have made a smoother social emotional adaptation to motherhood and feel better about themselves as mothers are more equipped to focus their energy and attention upon their infants (Shea, 1982; Winnicott, 1964). Winnicott (1964) states that "good enough" mothers at times need to be selfless and solely focus upon their infants' needs, wishes and desires. He suggests that being a mother requires a "primary maternal preoccupation" and argues that there must be "...a willingness as well as an ability on the part of the mother to drain interest from her own self onto the baby." (Winnicott, 1964, p.115). Balint (1965) also addresses this issue and discusses the need for mothers to frequently let go of their own interests and have identical interests to those of their children. Crittenden &

Bonvillian (1984) have supported this theoretical concept empirically and strongly argue that interactional patterns are dependent upon the mother's interests and how closely they are alligned to the needs of the child.

Both social and historical factors have a tremendous impact on modifying self-esteem (Shea, 1982). There is evidence to suggest that social networks and support systems are among the most effective moderator variables in alleviating the stress associated with the transition to parenthood (Crnic et al., 1984). Women who receive social support and feel that they can count on others for help tend to make a smoother adjustment to motherhood and be more comfortable in the mothering role. Crnic et al., (1984) suggest that social support operates on different ecological levels and consists of several dimensions including instrumental assistance, information provision, and emotional empathy and understanding. The adaptation to motherhood can be extremely difficult for women who are isolated and do not have well developed social networks. Weissman, Paykel & Klerman (1972) argue that women who are isolated and depressed exhibit significantly more impairments in their maternal performance. Difficulties in performance include: diminished emotional involvement, impaired communication, disaffection, increased hostility and resentment. They propose that:

"The depressed mother's own needs for help, guidance and direction and for love and

affection may be frustrated by the demands the child makes on her for psychological support. The mother is put in the untenable position of giving what she feels she should be getting." (Weissman, Paykel & Klerman, 1972, p.106).

In considering the salience of social factors providing both emotional support and security, Winnicott (1965) maintains that mothers who have it in them to provide good-enough care can be enabled to do better by being cared for themselves in a way that acknowledges the essential nature of their task.

Chodorow (1974; 1978) discusses the significance of historical factors and family structure and argues that people's experience of their relationship to their mothers provides a foundation for expectations of women as mothers. The Object Relations theorists also have focused upon the primary importance of the mother-infant relationship and maintain that this social relational experience provides the foundation upon which all future love relationships are based (Fairbairn, 1952; Balint, 1965).

In considering historical factors, it is important to note that the interpersonal past not only influences the capacity to be relational, but also influences the capacity to be autonomous. Gilligan (1982) suggests that there is an essential balance which needs to be maintained between attachment and separation throughout the life span. "Attachment and separation anchor the cycle of human life, describing the biology of human reproduction and the psychology of human development" (Gilligan, 1982, p.151).

Autonomy

There is evidence to suggest that developing the capacity to be independent and autonomous is based upon the experience of being guided through both discontinuous and continuous interactions. Specifically, the infant needs to acquire the skills to cope with both disengagement and engagement in order to be capable of creating a successful balance between attachment and separation in the future. Sander (1983) argues that disengagement (discontinuity) has a place of equal importance with engagement and attachment. Brazelton et al., (1974) maintain that social interaction is cyclic and that disengagement as well as engagement is essential for the development of self-regulation. The earliest manifestations of autonomy therefore can be defined as the infant's increased ability to self-regulate and engage in objects.

Kegan (1982) maintains that "healthy holding lays the stage for separation..." (p.127). Mahler, Pine & Bergman (1975) suggest that the mother plays a specific role in facilitating the separateness of the child. Sander (1983) has developed a similar argument and maintains that it is essential for the mother to provide "open space" so that the infant can expand his or her repertoire of behavior in the initiation of experience. In the "facilitating environment" the infant has the opportunity to differentiate effects contingent upon his or her own initiation (Sander, 1983).

Winnicott (1971) describes the interpersonal environment which the mother provides as an "intermediate area of experience." Sander (1977) suggests that:

"Mutual regulation of initiation constitutes the frontier of interpersonal encounter--in reciprocal exchange the initiative is traded back and forth. In the 'open space' segment of the adapted system, the conditions are optimal for the infant to differentiate effects contingent to his/her own initiation. The experience of contingent effects has a profound impact on the alerting and focusing of infant attention." (p.28)

Brazelton et al., (1974) maintain that the mother who is sensitive and regulating her infant well allows her infant to take more initiative during social interaction and in turn makes her infant more autonomous. Mothers who are more responsive and accepting of their infants independence may be attributing different meaning to their infants behavior than mothers who are intolerant of their infants autonomy. For example, take infant averting from their mothers during an interaction as a behavior with particularly different meanings. Mothers who are supportive of the development of their infants' initiative may experience their infants avert as an important exploration of the environment while mothers who are more dependent upon their infants' attention may experience their infants' avert as a rejection and signal that their infants are no longer interested and have decided to ignore them.

This suggests that the manner in which the mother

responds to the infant's autonomy can either help the infant develop a sense of his or her own agency or interfere with the process. Brazelton et al. (1974) suggest that mothers can help their infants by pausing during the interaction and not constantly attempting to solicit their infants. Mothers with higher overall maternal self-esteem may be more accepting of a wider range of their infants behavior, because mothers who feel better about themselves may be more capable of understanding the meaning of the interaction in their infants terms. Specifically, mothers who have more confidence in their abilities may allow their infants to be the leaders more frequently during the interaction, since they are more invested in helping their infants' autonomous development.

A closely related issue is that the infant who has experienced appropriate caretaking is more capable of moving away from the mother and focusing upon the physical environment (object world). Brazelton et al., (1975) have found that infant interactions with people and with objects produce different behavioral patterns which are both important developmentally. They propose that:

"...infants produce qualitatively different patterns of attention, action and affectivity when interacting with an object than with a person. With an object the infant's attention is characterized by rapt attention followed by abrupt and brief turning away. His movements are jerky, come in bursts, and are often accompanied by short swipes out towards the object. This is a different pattern of affective attentional cycling and behavior than we

observe in his performance with people. With people, in a short period of intense interaction, there are repeated cycles consisting of acceleration from initiation to greetings and then deceleration to disengagement. The pattern is smooth and rhythmical, whereas with objects there is the jaggedness of intense periods of attention interrupted by brief bursts of inattention and of activity." (p.44).

Winnicott suggests that the most basic experience in the establishment of the "capacity to be alone" during infancy is that of being alone in the presence of the mother. "Thus the basis of the capacity to be alone is a paradox; it is the experience of being alone while someone else is present." (Winnicott, 1965, p.30).

Stern (1985) states that autonomy is a basic issue for the lifespan since it is operating in the regulation of engagement. Developmentally Stern (1985) suggests that infants at six months of age become increasingly interested in the object world, and display independent behavior by spending a significant proportion of time turning away from their mothers and focusing upon objects. Stern (1985) suggests that:

The manner in which infants regulate their own stimulation and social contact through gaze behavior is quite similar, for the generic issue of autonomy and independence, to the manner in which they accomplish the same thing nine months later by walking away from and returning to mother's side. Why, then, should we not consider the period from three to six months also as phase-specific for the issue of autonomy and independence, both as displayed in overt behavior and as experienced subjectively?

Given the MRM's emphasis upon coping and self-regulation, it is useful to consider the development of the infant's autonomy as a central issue which is initially addressed by the infant and mother in the context of the dyadic relationship. The MRM assumes that social exchanges are never perfectly coordinated and that infants therefore need to control the amount of social stimulation they receive during face-to-face interaction by controlling their own gaze behavior (Tronick et al., 1985).

Brazelton and Yogman (1986) in their discussion of the precursors of ego function maintain that dyads must develop interactive flexibility, in order to have the resources to cope with disruption and reorganization. Crittenden & Bonvillian (1984) argue that affective communication and mutual accommodation are of central importance to well functioning dyads. Given that mothers and infants spend a small proportion of their time in matched behavioral states (acting the same way at the same time), it is critical to focus upon the manner in which mother-infant pairs cope with "mismatches". (Tronick & Gianino, 1986). Tronick & Gianino (1986) suggest that:

"Normal interactive stress arises from many causes-mistiming of emotional signals, unclear signals, misreading of signals, differences in goals, overloading or underloading of stimulation. More simply put, these stresses occur because it is impossible for mother or infant to maintain mutual regulation over the course of entire interaction. These stresses are normal, typical, and inherent to an interaction."
(p.4).

Given that it is difficult for a mother to separate from her infant at the same speed at which the infant needs to become separate from the mother (Winnicott, 1958), developmental progress may be best construed as being dependent upon the ways in which the dyad responds to "mismatches" (Stern, 1977). For example, there is some evidence to suggest that the types of difficulties that mothers experience in coping with the development of the infants autonomy may be quite different for mothers with daughters than mothers with sons (Chodorow, 1978). Chodorow (1978) suggests that the object relations between a girl and her mother are, in mostly unconscious ways different from those of a boy with his mother. Given the gender differences in object-relational experiences, Gilligan (1982) argues that girls are socialized to be more relational than boys. Chodorow (1978) proposes that girls come to experience themselves as less separate than boys and focuses upon the importance of developing a psychological understanding of the organization of gender.

Hypotheses

The primary hypothesis to be tested in this study is whether responsivity to infant autonomy is related to maternal self-esteem. Specifically it is hypothesized that mothers who have higher self-esteem respond more sensitively

and appropriately when their infants act autonomously. Another question to be explored is how mothers who have made a smoother adaptation to motherhood provide a proper "holding environment" for the development of their infants' autonomy. Specifically it is hypothesized that mothers who make a smoother adjustment to motherhood will be more likely to respond reciprocally to their infants. In addition, mothers with high self-esteem will not be undercontrolling or overcontrolling because of the confidence they have developed in the dyadic relationship. It is also hypothesized that mothers with higher overall maternal self-esteem will have infants who spend a greater proportion of time engaged with objects. Mothers with higher overall maternal self-esteem will take fewer opportunities to solicit their infants and when they do solicit will use positive rather than negative solicits. In addition, it is hypothesized that mothers with higher overall maternal self-esteem will be supportive of their' infants autonomy by sharing their infants focus upon objects.

Although maternal self-esteem is the central concern of this study, there is also great interest in focusing upon affective displays and the relationship between maternal affect and maternal behavior. The mothers feelings of self confidence in her mothering ability therefore may also influence the emotional displays which she exhibits while interacting with her infant. It is hypothesized that

mothers with high self-esteem are more likely to display positive affect (rather than neutral or tense affect) when interacting with their infants. The specific hypotheses to be tested are the following:

Hypothesis 1: Mothers with higher overall maternal self-esteem will be more sensitive and responsive to their infants and less undercontrolling and overcontrolling.

Hypothesis 2: Mothers with higher overall maternal self-esteem will display more positive affect and less neutral and negative affect.

Hypothesis 3: Mothers with higher overall maternal self-esteem will have infants who spend a greater proportion of time engaged with objects.

Hypothesis 4: Mothers with higher overall maternal self-esteem will have more positive solicits than negative solicits.

Hypothesis 5: Mothers with higher overall maternal self-esteem will solicit their infants less frequently than mothers with lower overall self-esteem.

Hypothesis 6: Mothers with higher overall maternal self-esteem will share their infants alternate focus more

frequently than mothers with lower overall self-esteem.

Definitions

In this study, autonomy will be operationalized by the infant's affective state "look away" which occurs during those "periods in which the infant is predominately averting his or her gaze (very fast glances towards the mother with durations of 1 1/4 seconds are allowed) and affect is not distressed" (Tronick, Ricks & Cohn, 1982). For the purposes of this study, a solicit will be defined as a positive or negative maternal signal which functions to modify the infant's current behavior. Reciprocal is used to describe those periods in which the mother is sharing the infant's alternate focus. Elaboration is used to describe the extent to which the mother imitates or exaggerates infant social actions, and "backs off" during infant averts. Undercontrolling is used to describe those periods in which the mother is withdrawing from the interaction and not organizing the infant's attention. Overcontrolling, the opposite of Undercontrolling, is used to describe those periods in which the mother is intruding rapidly and overriding the infant's activity.

This study, is part of a collaborative project with Andy Gianino and Ted Plimpton in which mothers and their six month old infants were videotaped during face-to-face

interaction on two separate occasions one week apart. The first two minute face-to-face play episode which was videotaped will be used for the purposes of this study. Mother's behavior will be scored from the tapes for sensitivity, affective displays, primary attentional focus, solicit quality and solicit delay during the infant's affective state "look away."

C H A P T E R I I

METHOD

Subjects

Subjects were fifty two infant-mother pairs. The average age was 5 months 21 days and the range was from 5 months 5 days to 6 months 11 days. Thirty of the infants were male and twenty two were female. The dyads were drawn from the published birth announcements in the community newspapers. Only dyads which experienced no pregnancy or delivery complications or subsequent health problems were included. Two subjects (one mother-daughter pair and one mother-son pair) could not be used, because the mothers failed to complete the Maternal Self-Report Inventory.

Setting and Materials

The face-to-face laboratory consisted of a video studio with adjoining interview room. The studio was equipped with an infant seat mounted on a table facing an adjustable stool for the mother, two video cameras and a microphone. One camera was focused on the mother and one on the infant. Both pictures were transmitted through a digital timer and split-screen generator into a videorecorder. Digital timer, split-screen generator, recorder and monitor were located in the interview room. (Tronick et al., 1982; Cohn & Tronick, 1982; Gianino, 1982).

Procedure

Each mother-infant pair came to the laboratory for a recording of face-to-face interaction. The experimental procedure consisted of three episodes: 1 minute in which the mother held her infant in her arms. The infant was then placed in the infant seat and the mother turned her back towards her infant for 15 seconds. This was followed by a 2 minute normal face-to-face play interaction. The purpose of the 1 minute hold before the play episode was to help the mother and infant orient to the laboratory setting. The 15 second pause helped the experimenter to accurately establish the beginning of the 2 minute play episode. Only data for the normal face-to-face play interaction was used for purposes of this study.

Coding of Data

Maternal Self-Esteem

The evaluation of maternal self-esteem was based on the Maternal Self-Report Inventory (Shea, 1982; see Appendix A). Eight individual dimensions of maternal self-esteem (1. caretaking ability; 2. general ability as a mother; 3. acceptance of baby; 4. body image and health after delivery; 5. parental influence; 6. relationship with baby; 7. pregnancy, labor and delivery; and 8. general self-esteem) were assessed by this inventory. All items on the questionnaire were written in the first person. Mothers

were requested to indicate on a 5-point scale how accurately each statement described how she felt. Items from the eight dimensions were randomly intermixed throughout the scale and an equal number of positive and negative items were written for each dimension and randomly interspersed throughout the questionnaire in order to avoid response sets. This questionnaire was filled out by the mothers after the laboratory session was completed. The overall rating of maternal self-esteem (the mean score of the 8 dimensions) was used for the purposes of this study.

Quality of Maternal Behavior

Maternal sensitivity was scored using Ricks' Maternal Sensitivity and Responsivity scales (Ricks, 1981; Tronick et al., 1982; see Appendix B). The mothers' interactive behavior was characterized along three dimensions: 1. elaboration; 2. overcontrol; 3. undercontrol. Each mother was given an overall rating on these three dimensions for the entire 2 minute normal face-to-face play interaction. The elaboration scale is a modification of Ainsworth's sensitivity scales and assesses the degree to which the mother is responsive to the infant's behavior. The overcontrol scale is a measure of the degree to which the mother allows the infant to take the initiative without intruding on the infant's activities. The undercontrol scale assesses the degree to which the mother withdraws and hesitates during the interaction.

A research assistant initially viewed the entire 2 minute normal face-to-face play interaction with the tape running at normal speed in order to familiarize herself with the overall play interaction. Since the mothers' interactive behavior was characterized along three distinct dimensions, it was necessary for a research assistant to view the tape three additional times (at normal speed) after the initial viewing of the tape, in order to score elaboration, overcontrol and undercontrol separately. The elaboration rating was made after the second viewing, the overcontrol rating was made after the third viewing and the undercontrol rating was made after the fourth viewing.

Maternal Affect

Maternal affect was scored using a modified version of Denham's (1985; see Appendix C) system. The system is derived from Izard (1979), McGrew (1972) and two NIMH protocols and assesses three individual dimensions of affect (1. happy; 2. neutral; 3. tense). The mothers' affect was coded independently by the experimenter and a research assistant from videotapes at 1 second intervals during those periods of time in which the infants were looking away from their mothers. Maternal affect was coded with the tape running at normal speed although it was often stopped and then run in slow motion to accurately determine the timing of the individual dimensions of affective expression. After

the scoring was completed, the experimenter and research assistant compared their codes and reviewed the videotapes together in order to resolve the disagreements in their codes.

Focus of Attention

The infant's "look away" was coded in order to assess whether the infant was: 1. focused on an object; or 2. disengaged. The mother's focus was also coded during the infant's affective state "look away" in order to assess whether the mother was 1. sharing the infant's focus; or 2. having an alternate focus from that of her infant. Focus of attention was coded by the experimenter and research assistant from videotapes. The tape was run at normal speed although it was often stopped and then run in slow motion to accurately determine the beginning and ending of the infant's 'look away' and the shifts in maternal focus.

Delay to Solicit

The amount of time that it takes for the mother to solicit a response from the infant during "look away" was scored from the videotapes by the experimenter and research assistant in order to differentiate between mothers who immediately solicit their infants, mother's who never solicit their infants, and mother's who solicit their infants in order to help the infants organize themselves. Delay to solicit was coded with the tape running at normal

speed, occasionally it was necessary to stop the tape and run it again to determine the timing of maternal solicits.

Solicit Quality

The quality of maternal solicits was scored from videotapes by the experimenter and research assistant in order to differentiate between positive solicits, negative solicits and no solicits. Positive solicits were defined as maternal solicits which were neither intrusive or inappropriate. For example, the mother who positively vocalizes by calling the infant's name or initiates a game with her infant. Negative solicits were defined as maternal solicits which were intrusive and inappropriate. For example, the mother who tries to get her infant's attention by shaking her infant, poking her infant or physically moving her infant's head towards her. No solicits were defined by pauses in the interaction in which the mother did not try to get her infant's attention.

Look at Me

Maternal "Look at Me" responses were scored by the experimenter and research assistant from videotapes. The experimenter and research assistant would view the tape running at normal speed and determine if the mother attempted to redirect her infant's attention in an overtly intrusive manner by saying "Look at Me." The tapes in which

"Look at Me." responses occurred were viewed for a second time at normal speed and the experimenter and research assistant then counted the number of times that mothers said "Look at Me."

Reliability

Interobserver reliability was defined as the number of agreements divided by the number of agreements plus disagreements. In addition, agreement was corrected for chance, as measured by Cohen's kappa (Cohen, 1960). For comparison purposes, videotapes of 13 play episodes (twenty five percent of the subjects) were recoded by the experimenter and research assistant in order to determine interobserver reliability. Agreement for observing the infants affective state "look away" was 75 percent (80 percent agreement corrected for chance, as measured by Cohen's kappa). Agreement for observing maternal focus was 71 percent (93 percent agreement corrected for chance, as measured by Cohen's kappa). Interobserver reliability for the quality of maternal solicits was 78 percent (62 percent agreement corrected for chance, as measured by Cohen's kappa). Agreement for maternal affect was 77 percent (62 percent agreement corrected for chance, as measured by Cohen's kappa).

C H A P T E R I I I

RESULTS

The presentation of results is organized according to the six specific hypotheses which were tested: 1) the relationship between maternal self-esteem and maternal sensitivity; 2) the relationship between maternal self-esteem and maternal affect; 3) the relationship between maternal self-esteem and infant averts; 4) the relationship between maternal self-esteem and solicit quality; 5) the relationship between maternal self-esteem and taking the opportunity to solicit; and 6) the relationship between maternal self-esteem and sharing the infants alternate focus. Following these analyses, the relationship of maternal affect to maternal sensitivity, infant averts, solicit quality, taking the opportunity to solicit, and sharing the infants' alternate focus will be tested.

The overall maternal self-esteem scores were quite high for all of the mothers in this study. (see Table 1). In addition, the correlations between all of the subscales of the Maternal Self-Report Inventory and the overall Maternal Self-Report Scores were significant at $p < .001$. Correlations of .8 or higher were obtained for Pregnancy, Labor and Health after Delivery, General Ability as a Mother, and General Self-Esteem (Epstein). Correlations below .8 were obtained for Body Image and Health after Delivery, Acceptance of Baby, Caretaking Ability and Parental Influence. Table 2 contains correlations for each

TABLE 1

SUMMARY DATA FROM MATERNAL SELF-REPORT INVENTORY

MSI SCALES	MEAN	SD	RANGE
Caretaking Ability	4.07	.31	3.38 - 4.85
General Ability as a Mother	4.33	.35	3.39 - 4.96
Acceptance of Baby	4.39	.31	3.40 - 4.80
Relationship with Baby	4.38	.35	3.64 - 5.00
Body Image and Health after Delivery	3.61	.69	1.60 - 4.83
Parental Influence	4.01	.39	2.67 - 4.83
Pregnancy, Labor and Delivery	4.06	.49	2.33 - 4.93
General Self-Esteem (Epstein)	3.86	.32	3.13 - 4.50
Overall MSI	4.09	.29	3.18 - 4.65

of the subscales with the overall maternal self-esteem rating. No significant sex differences were found for infants or mothers (mothers with sons vs. mothers with daughters) on any of the dimensions of maternal self-esteem which were coded.

These results lead to the decision to use only the overall maternal self-esteem score in the evaluation. It is also important to note that there was very little variability in the maternal self-esteem data and the scores were quite high. Because of this, in addition to the correlational analyses, the lower quartile (first quartile) was compared with the upper quartile (third quartile) to test whether there were any significant differences between the thirteen mothers who were highest in self esteem and the thirteen mothers who were lowest in self-esteem.

The Relationship between Overall Maternal Self-Esteem and Maternal Sensitivity

The hypothesis that mothers with higher overall maternal self-esteem will be more sensitive and responsive to their infants and less undercontrolling and overcontrolling was tested by Pearson correlation coefficients using the SPSS program. These findings are presented in Table 3. As may be seen, no significant overall relationship was found. No significant relationship was found for males. A significant relationship was found for females between overall maternal self-esteem and undercontrol ($r = -.36$, $p < .05$). Contrary to what was

TABLE 2

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MSI
 SUBSCALES AND OVERALL MSI SCORES

MSI Subscales	Overall Scores
Caretaking Ability	.65**
General Ability as a Mother	.83**
Acceptance of Baby	.68**
Relationship with Baby	.66**
Body Image and Health after Delivery	.74**
Parental Influence	.63**
Pregnancy, Labor and Delivery	.80**
General Self-Esteem (Epstein)	.84**

 *p < .05

**p < .001

TABLE 3

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN OVERALL MSI
 SCORES AND MATERNAL SENSITIVITY RATINGS

	Elaboration	Undercontrol	Overcontrol
MSI Scores Males & Females Combined	-.10	-.04	-.13
MSI Scores Males	.04	.16	.00
MSI Scores Females	-.45*	-.36*	.42*

 *p < .05

**p < .001

expected, a significant negative relationship was found for females between maternal self-esteem and elaboration ($r = -.45$, $p < .05$) and maternal self-esteem and overcontrol ($r = .42$, $p < .05$). No significant differences were found when upper and lower quartiles were compared.

The Relationship between Overall Maternal Self-Esteem and Maternal Affect

The hypothesis that mothers with higher overall maternal self-esteem will display more positive affect and less neutral and negative affect was tested by Pearson correlation coefficients using the SPSS program. No significant overall relationship was found. No significant relationship was found for males. No significant relationship was found for females (see Table 4). It is interesting to note that mothers spend approximately the same proportion of time displaying happy, neutral and tense affect (see Table 5). No significant differences were found when upper and lower quartiles were compared.

The Relationship between Overall Maternal Self-Esteem and Infant Averts

The hypothesis that mothers with higher overall maternal self-esteem will have infants who spend a greater proportion of time engaged with objects was tested by Pearson correlation coefficients using the SPSS program. These findings are presented in Table 6. No significant overall relationship was found. No significant relationship was found for males. No significant relationship was found for females. No significant differences were found when

TABLE 4

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN OVERALL MSI
 SCORES AND MATERNAL AFFECT RATINGS

Happy Affect Neutral Affect Tense Affect

MSI Scores Males & Females Combined	-.15	.05	.07
---	------	-----	-----

MSI Scores Males	-.27	.20	.02
---------------------	------	-----	-----

MSI Scores Females	.12	-.30	.11
-----------------------	-----	------	-----

*p < .05

**p < .001

TABLE 6

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN OVERALL MSI
 SCORES AND INFANT AVERTS

	Object Attend	Avert	Total Away
MSI Scores Males & Females Combined	.03	.07	.05
MSI Scores Males	.03	-.11	.01
MSI Scores Females	.02	-.27	.11

 *p < .05

**p < .001

upper and lower quartiles were compared.

The Relationship between Overall Maternal Self-Esteem and Solicit Quality

The hypothesis that mothers with higher overall maternal self-esteem will have more positive solicits than negative solicits was tested by Pearson correlation coefficients. These results are presented in Table 7. No significant overall relationship was found. No significant relationship was found for males. No significant relationship was found for females. No significant differences were found when upper and lower quartiles were compared.

The Relationship between Overall Maternal Self-Esteem and Taking the Opportunity to Solicit

Taking the opportunity to solicit is a derived measure which was calculated from the proportion of maternal solicits given opportunities. The hypothesis that mothers with higher overall maternal self-esteem will solicit their infants less frequently than mothers with lower overall self-esteem was tested by Pearson correlation coefficients. These results are presented in Table 7. No significant overall relationship was found. No significant relationship was found for males. No significant relationship was found for females. On the average, mothers solicited their infants 62% of the time (SD .33). No significant differences were found when upper and lower quartiles were compared.

TABLE 7

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN OVERALL MSI
 SCORES AND MATERNAL SOLICITS

 Solicit Delay Solicit Quality Solicits/Opportunities

 MSI Scores .02 -.02 -.07
 Males & Females
 Combined

MSI Scores .20 -.12 -.04
 Males

MSI Scores -.33 .11 -.10
 Females

 *p < .05
 **p < .001

The Relationship between Maternal Self-Esteem and Sharing the Infants' Focus

The hypothesis that mothers with higher overall maternal self-esteem will share their infants alternate focus more frequently than mothers with lower overall self-esteem was tested by Pearson correlation coefficients. These results are presented in Table 8. No significant overall relationship was found. No significant relationship was found for males. A significant negative relationship was found for females between maternal self-esteem and sharing the infants alternate focus ($r = -.45$, $p < .05$). Given that infants spend approximately 70% of the play interaction averting (SD .24) it is interesting to note that mothers share both their sons and daughters alternate focus 47% (SD .31) of the time (see Table 9). A significant negative relationship was found for males between maternal self-esteem and maternal "look at me" responses ($r = -.32$, $p < .05$) (see Table 10).

The Relationship between Maternal Affect and Maternal Sensitivity Ratings

Table 11 presents the results on the relationship between maternal affect and maternal sensitivity. Specifically, an overall relationship was found between happy affect and elaboration ($r = .36$, $p < .05$). A significant relationship was found for males ($r = .38$, $p < .05$) and for females ($r = .41$, $p < .05$). An overall relationship between neutral affect and undercontrol was

TABLE 8

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN OVERALL MSI
 SCORES AND MATERNAL FOCUS CODES

MSI Scores

Shared Maternal Focus Codes

 Males & Females
 Combined

-.08

Males

.13

Females

*

 -.45

 *p < .05

**p < .001

TABLE 9

PROPORTION OF INFANT LOOKING AT MOTHER AND AVERTS AND
PROPORTION OF MATERNAL SHARED AND ALTERNATE FOCUS STATES

	Looking at Mother	Infant Averts	SD
Males & Females Combined	.29	.71	.24
Males	.30	.70	.25
Females	.28	.72	.24

	Shared Focus	Alternate Focus	SD
Males & Females Combined	.47	.53	.31
Males	.47	.53	.32
Females	.47	.53	.30

TABLE 10

 PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN OVERALL MSI
 SCORES AND MATERNAL LMS

 MSI Scores Maternal LMS

Males & Females Combined - .01

Males *
 - .32

Females .32

*p < .05

**p < .001

TABLE 11

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MATERNAL AFFECT
 RATINGS AND MATERNAL SENSITIVITY RATINGS

	<u>Males and Females Combined</u>		
	Happy Affect	Neutral Affect	Tense Affect
Elaboration	.36*	.16	-.57**
Undercontrol	-.28*	.47**	-.19
Overcontrol	-.06	-.45**	.49**
<u>Males</u>			
Elaboration	.38*	.16	-.61**
Undercontrol	-.47*	.49*	-.12
Overcontrol	.02	-.57**	.56**
<u>Females</u>			
Elaboration	.41*	.23	-.61**
Undercontrol	-.03	.34*	-.26
Overcontrol	-.22	-.24	.42*

*p < .05

*p < .001

found ($r = .47$, $p < .001$). A significant relationship was found for males ($r = .49$, $p < .05$), and for females ($r = .34$, $p < .05$). An overall relationship was found between tense affect and overcontrol ($r = .49$, $p < .001$). A significant relationship was found for males ($r = .56$, $p < .001$), and for females ($r = .42$, $p < .05$). These significant correlations can be thought of as a validity analysis of Maternal Sensitivity and Responsivity scales.

The Relationship between Maternal Affect and Infant Averts

A significant overall relationship was found between maternal affect and infant averts (see Table 12). A significant overall negative relationship was found between happy affect and infant averts ($r = -.58$, $p < .001$). A significant negative relationship was found for males ($r = -.67$, $p < .001$) and for females ($r = -.44$, $p < .05$). A significant overall relationship was found between neutral affect and infant averts ($r = .25$, $p < .05$). A significant relationship was found for males ($r = .32$, $p < .05$). No relationship was found for females between neutral affect and infant averts. An overall relationship was found between tense affect and infant averts ($r = .37$, $p < .05$). A significant relationship was found for males ($r = .37$, $p < .05$) and for females ($r = .36$, $p < .05$).

The Relationship between Maternal Affect and Elicit Quality

No significant overall relationship was found between happy affect and negative solicit quality. No relationship was

TABLE 12

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MATERNAL AFFECT
 RATINGS AND INFANT AVERTS

Males and Females Combined
 Happy Affect Neutral Affect Tense Affect

Object Attend	-.62**	-.26*	.40*
Avert	.21	-.08	-.18
Total Away	-.58**	.25*	.37**

Males

	**	*	*
Object Attend	-.74	.37	.40
Avert	.22	-.16	-.11
	**	*	*
Total Away	-.67	.32	.37

Females

	*		*
Object Attend	-.46	.09	.41
Avert	-.23	.08	-.30
	*		*
Total Away	-.44	.12	.36

 *p < .05

*p < .001

found for males or for females (see Table 13). A significant overall negative relationship was found between neutral affect and negative solicit quality ($r = -.31$, $p < .05$). A significant negative relationship was found for males ($r = -.31$, $p < .05$), and for females as well ($r = -.38$, $p < .05$). A significant overall relationship was found between tense affect and negative solicit quality ($r = .37$, $p < .05$). A significant relationship was found for males ($r = .49$, $p < .05$). No significant relationship was found for females.

The Relationship between Maternal Affect and Taking the Opportunity to Solicit

A significant overall negative relationship was found between maternal affect and taking the opportunity to solicit (see Table 13). A significant overall negative relationship was found between happy affect and taking the opportunity to solicit ($r = -.49$, $p < .001$). A significant negative relationship was found for males ($r = -.42$, $p < .05$) and for females ($r = -.58$, $p < .05$). No significant overall relationship was found between neutral affect and taking the opportunity to solicit. No significant relationship was found for males or for females. A significant overall relationship was found between tense affect and taking the opportunity to solicit ($r = .45$, $p < .001$). A significant relationship was found for males ($r = .46$, $p < .05$) and for females ($r = .44$, $p < .05$). It is interesting to note that maternal affect is uncorrelated

TABLE 13

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MATERNAL AFFECT
 RATINGS AND MATERNAL SOLICITS

	<u>Males and Females Combined</u>		
	Happy Affect	Neutral Affect	Tense Affect
Solicit Delay	-.15	-.04	.14
Solicit Quality	-.04	-.31 [*]	.37 [*]
Solicit Opportunities	-.49 ^{**}	.08	.45 ^{**}
<u>Males</u>			
Solicit Delay	-.08	-.10	.15
Solicit Quality	-.10	-.31 [*]	.49 [*]
Solicit Opportunities	-.42 [*]	.02	.46 [*]
<u>Females</u>			
Solicit Delay	-.30	.17	.11
Solicit Quality	.09	-.38 [*]	.20
Solicit Opportunities	-.58 [*]	.20	.44 [*]

 *p < .05

*p < .001

with solicit delay. On the average, mothers pause for 4 seconds before they solicited (SD 2.66).

The Relationship between Maternal Affect and Sharing the Infants Alternate Focus

A significant overall relationship was found between maternal affect and sharing the infants alternate focus (see Table 14). A significant overall relationship was found between neutral affect and sharing the infants alternate focus ($r = .48$, $p < .001$). A significant relationship was found for males ($r = .52$, $p < .05$) and for females ($r = .41$, $p < .05$). A significant overall negative relationship was found between tense affect and sharing the infants alternate focus ($r = -.42$, $p < .001$). A significant negative relationship was found for males ($r = -.42$, $p < .05$), and for females as well ($r = -.41$, $p < .05$). No significant relationship was found between happy affect and sharing the infants alternate focus.

It is interesting to note that there was also a significant overall relationship between maternal affect and "look at me" responses (see Table 15). There was a significant overall negative relationship between happy affect and "look at me" responses ($r = -.26$, $p < .05$). A significant relationship was found for males ($r = -.32$, $p < .05$). No significant relationship was found for females. A significant overall negative relationship was found between neutral affect and "look at me" responses ($r = -.30$, $p < .05$). No significant relationship was found for

TABLE 14

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MATERNAL AFFECT
 RATINGS AND MATERNAL FOCUS CODES

	Happy Affect	Neutral Affect	Tense Affect
Shared Maternal Focus Males & Females Combined	-.04	.48**	-.42**
Shared Maternal Focus Males	-.12	.52*	-.42*
Shared Maternal Focus Females	.08	.41*	-.41*

 *p < .05

*p < .001

TABLE 15

 PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MATERNAL AFFECT
 RATINGS AND MATERNAL LMS

	Happy Affect	Neutral Affect	Tense Affect
Maternal LMS Males & Females Combined	-.26*	-.30*	.57**
Maternal LMS Males	-.32*	-.27	.61*
Maternal LMS Females	-.21	-.43 [*]	.55 [*]

 *p < .05

*p < .001

males. A significant relationship was found between neutral affect and "look at me" responses for females ($r = -.43$, $p < .05$). A significant overall relationship was found between tense affect and "look at me" responses ($r = .57$, $p < .001$). A significant relationship was found for males ($r = .61$, $p < .05$) and for females ($r = .55$, $p < .05$).

C H A P T E R I V

DISCUSSION

The primary goal of this study was to provide a direct test of the relationship between maternal self-esteem and responsivity to infant autonomy. While this study is concentrated on maternal self-esteem, there was also a secondary interest in the relationship between maternal affect and maternal behavior.

Maternal Self-Esteem

In view of the fact that there was no support for any of the original hypotheses, it is important to consider possible interpretations. First there was very little variability in the self-esteem data and self-esteem was high. Although Shea's (1982) findings suggest that it is not necessary to have a high variability distribution in order to get robust findings, one must note that her research focused upon mothers during the newborn period and at one month. Given the generally high scores, it is difficult to differentiate between the mothers in this study with high self-esteem and the mothers with low self-esteem. In order to have greater confidence in these results, it would be necessary to replicate this study with a group of women who had low scores on the Maternal Self-Report Inventory. This maybe expecially important because we may

be seeing mothers who are in general quite sensitive. This is indicated in part by the generally high scores on sensitivity. The Maternal Self-Report Inventory therefore may be an excellent measure of maternal self-esteem during the initial period of adaptation to motherhood, but may not be an appropriate measure of maternal self-esteem of mothers at six months.

The Maternal Self-Report Inventory may also be a heterogeneous measure which is not necessarily measuring only maternal self-esteem. Both Mack (1983) and Huizenga (1983) claim that self-esteem derives from and is supported by narcissism and suggest that it is essential to focus upon the relationship between maternal self-esteem and narcissism. Although there is little empirical support for this formulation, both Mack (1983) and Huizenga's (1983) argument that self-esteem is a complex construct which may be tapping into other personality constructs is a useful formulation. It may also be the case that the hypotheses are incorrect, in that the connection between attitudes and behavior is not as tight as was expected.

Sex Differences

In order to evaluate and interpret the results, it is may also be useful to focus upon the sex differences which were found. Although no overall sex differences were found for infants or for mothers (mothers with sons vs. mothers with daughters) on any of the individual dimensions which

were coded, significant negative correlations between maternal self-esteem and maternal sensitivity were found for mother-daughter pairs. Mothers with high self-esteem may be more directive and controlling with their daughters, because they experience their daughters as being less separate than their sons. Consequently, it is possible that mothers with high self-esteem are less sensitive and responsive (higher in overcontrol and lower in elaboration), because they are more confident in taking the lead with their daughters. The significant negative correlation between maternal self-esteem and undercontrol ($r = -.36, p < .05$) is an indication that mothers with high self-esteem do not withdraw or hesitate when they are interacting with their daughters.

Mothers who feel good about themselves and their mothering abilities may be more intrusive and controlling with their daughters, because they believe that they know what is best for them. Mothers with high self-esteem may be more invested in developing their daughters relational capacities than their autonomy. Chodorow argues that "The patterns of fusion, projection, narcissistic extension, and denial of separateness are more likely to happen in early mother-daughter relationships than in those of mothers and sons." (p.103).

Chodorow (1978) also suggests that good enough mothering is done through identification and experiencing

the infant as being continuous with the self. Mothers with high self-esteem may see their daughters as being less separate than their sons, because they consider their daughters to be an extension of themselves. "...Primary identification and symbiosis with daughters tend to be stronger and cathexis of daughters is more likely to retain and emphasize narcissistic elements...because of their mothering by women girls come to experience themselves as less separate than boys, as having more permeable ego boundaries." (Chodorow, 1978).

Maternal Affect

It is difficult to explain the finding that there was no significant overall relationship between maternal affect and maternal self-esteem. The Mutual Regulation Model argues that affective messages between the mother and infant help to regulate the interaction and allows for one interactant to achieve his or her goals in coordination with those of the other interactant (Tronick, 1980). In the MRM it is proposed that high self-esteem leads to maternal sensitivity and an increased ability to respond to the infants' interactive behaviors (affective expressions). Given this theoretical perspective, the relationship between maternal affect and maternal behavior is of great interest and concern.

In considering the issue of validity, it is useful to note that the significant correlations found between happy affect and elaboration, neutral affect and undercontrol, and tense affect and overcontrol provide evidence for the validity of the Maternal Sensitivity and Responsivity scales.

Maternal affect was significantly correlated with maternal solicit quality and taking the opportunity to solicit. In particular, mothers who displayed more tense affect tended to use negative solicits rather than positive solicits and were more likely to solicit their infants given the opportunity. Neutral affect was negatively correlated with using negative rather than positive solicits and uncorrelated with taking the opportunity to solicit. Although happy affect was uncorrelated with solicit quality it was negatively correlated with taking the opportunity to solicit. These results suggest that maternal affect is an excellent predictor of how mother's will respond when their infants "look away." In addition, it appears that mothers who are supportive of their infants' autonomy communicate these feelings to their infants through their affective expressions.

The results of the relationship between maternal affect and sharing the infants' focus during the infant's affective state "look away" directly correspond to the above results. Specifically, tense affect is negatively correlated with sharing the infants' alternate focus. It appears that

mothers who display more tense affect, are less tolerant of their infants' autonomy and are more invested in having their infants' attention throughout the entire two minute face-to-face play interaction.

Recommendations for Future Research

The present study would suggest several directions for future work on maternal responsivity to infant autonomy. One area of research to be explored is the relationship between maternal affect and maternal behavior. Given the results of this study, there is evidence to suggest that there is an important relationship between maternal affective displays and maternal sensitivity. Currently we have a theoretical model (the Mutual Regulation Model) which could guide future work in this area.

It would also be valuable to focus upon the relationship between responsivity to infant autonomy and parental values. It is possible that the attribution of meaning to infant behavior is influenced by child-rearing attitudes and maternal meaning making. The infants' affective state "look away" could be interpreted by mothers in very different ways depending upon their own parental goals and expectations.

In conclusion, it appears that there is still a great need for future research to clarify the relationship

between maternal behavior and the infant's developing sense of effectance and autonomy. By focusing upon the factors which directly influence the interpersonal context which the mother provides for her infant, we may begin to develop a greater understanding of the ways in which the mother facilitates her infant's sense of competence and mastery.

REFERENCES

- Als, H., Tronick, E., & Brazelton, T. B. (1979). Analysis of face-to-face interaction in infant-adult dyads. In M. E. Lamb, S. J. Suomi, & G. R. Stephenson (Eds.), Social interaction analysis: Methodological issues. (pp. 33-77). Madison, WI: University of Wisconsin.
- Ainsworth, M. D. S., Bell, S., & Stayton, D. Infant-mother attachment and social development: "Social action" as a product of reciprocal responsiveness to signals. In M. P. M. Richards (Ed.), The integration of a child into a social world. London: Cambridge University Press.
- Balint, M. (1965). Primary love and psycho-analytic technique. New York: Liveright Publishing.
- Brazelton, T. B., Koslowski, B., & Main, M. (1974). The origins of reciprocity: The early mother-infant interaction. In M. Lewis & Rosenblum (Eds.), The effect of the infant on its caregiver. New York: Wiley-Intersciences.
- Brazelton, T. B., Tronick, E., Adamson, L., Als, H., & Wise, S. (1975). Early mother-infant reciprocity. In Ciba Foundation Symposium 33 Parent-infant interaction. New York: Associated Scientific Publishers.
- Brazelton, T. B., & Yogman, M. W. (1986). Reciprocity, attachment, and effectance: Anlage in early infancy. In T. B. Brazelton & M. W. Yogman (Eds.), Affective development in infancy. Norwood, NJ: Ablex.
- Chodorow, N. (1974). Family structure and feminine personality. In M. Z. Rosaldo and L. Lamphere (Eds.), Women culture and society. (pp 43-66). Stanford: Stanford University Press.
- Chodorow, N. (1978). The reproduction of mothering: psychoanalysis and the sociology of gender. Berkeley: University of California Press.
- Cohen, J. (1960). A coefficient of agreement for nominal scales. Educational and Psychological Measurement, 20, 37-47.
- Cohn, J. F., & Tronick, E. (1982). Communicative rules and the sequential structure of infant behavior during normal and depressed interaction. In E. Tronick (Ed.), Social interchange in infancy: affect, cognition and communication. Baltimore: University Park Press.
- Cohn, J. F., & Tronick, E. (1982). Three-month old infants reaction to simulated maternal depression. Child Development, 54, 185-193.

Cohn, J. F., Matias, R., Connell, D., & Lyons-Ruth, K. (1985) At-risk infants: Face-to-face interaction and developmental differences. Presented at the Biennial meeting of the Society for Research in Child Development, Toronto, Ontario, April.

Crnic, K. A., Greenberg, M. T., Robinson, N. M. & Ragozin, A. S. (1984). Maternal stress and social support: Effects on the mother-infant relationship from birth to eighteen months. Amer. J. Orthopsychiat., 54, 224-235.

Crittenden, P. M., & Bonvillian, J. D. (1984). The relationship between maternal risk status and maternal sensitivity. Amer. J. Orthopsychiat., 54, 250-262.

Denham, S. A. (1985). Emotional dialogue between toddlers and their mothers and its influence on child social-emotional competence. Unpublished doctoral dissertation, University of Maryland, 1985.

Emde, R. N. (1984). Levels of meaning for infant emotions: A biosocial view. In K. R. Scherer & Ekman, P. (Ed.), Approaches to emotion. (pp. 77-107). Hillsdale, NJ: Erlbaum.

Fairbairn, W. R. D. (1952). An object-relations theory of personality. New York: Basic Books.

Gianino, A. F. (1985). Individual differences in infant response to an interpersonal stress at six months. Unpublished doctoral dissertation, University of Massachusetts, Amherst.

Gilligan, C. (1982). In a different voice. Cambridge, MA: Harvard University Press.

Huizenga, J. N. (1983). The relationship of self-esteem and narcissism. In J. E. Mack & S. L. Ablon (Eds.), The development and sustenance of self-esteem in childhood. New York: International Universities Press.

Kegan, R. (1982). The evolving self. Cambridge, MA: Harvard University Press.

Mahler, M. S., Pine, F., & Bergman, A. (1975). The psychological birth of the human infant. New York: Basic Books.

Malatesta, C. Z. (1985). Facial expressions of infants and mothers during early interaction. Presented at the Biennial meeting of the Society for Research in Child Development, Toronto, Ontario, April.

Mack, J. E. (1983) Self-esteem and its development: An overview. In J. E. Mack & S. L. Ablon (Eds.), The development and sustenance of self-esteem in childhood. New York: International Universities Press.

Massie, H. N. (1978). The early natural history of childhood psychosis: 10 cases studied by analysis of family home movies of the infancies of the children. Journal of American Academy of Child Psychiatry, 17, 29-45.

Ricks, M., Noyes, D., & Tronick, E. Z. (1981). Secure babies have secure mothers. Unpublished manuscript, University of Massachusetts, Amherst, 1981.

Sander, L. W. (1962). Issues in Early Mother-Child Interaction. Journal of the American Academy of Child Psychiatry, 1, 141-166.

Sander, L. W. (1977) Regulation of exchange in the infant caretaker system: A viewpoint of the ontogeny of "structures". In N. Freedman & S. Grand (Eds.), Communicative structures and psychic structure. (pp.13-34). New York: Plenum Press.

Sander, L. W. (1983). Polarity, paradox, and the organizing process in development. In J. D. Call, E. Galenson, & R. L. Tyson (Eds.), Frontiers of infant psychiatry. (pp.333-346). New York: Basic Books.

Shea, E. M. (1982). The development and evaluation of a scale to measure maternal self-esteem. Unpublished manuscript, University of Massachusetts, Amherst.

Stern, D. N. (1977). The first relationship. Cambridge, MA: Harvard University Press.

Stern, D. N. (1985). The interpersonal world of the infant. New York: Basic Books.

Sullivan, H. S. (1953). The interpersonal theory of psychiatry. New York: W. W. Norton.

Trevarthen, C. (1977). Descriptive analyses of infant communicative behaviour. In H. R. Schaffer (Ed.), Studies in mother-infant interaction (pp. 227-270). London: Academic Press.

Trevarthen, C. (1984). Emotions in infancy: Regulators of contact and relationships with persons. In K. R. Scherer & P. Ekman (Eds.), Approaches to emotion. (pp.129-157). Hillsdale, NJ: Erlbaum.

- Tronick, E. (1980). On the primacy of social skills. In D.B. Sawin, L. O. Walker, & J. H. Penticuff (Eds.), The exceptional infant, Vol 4: Psychosocial risks in infant-environment transaction. (pp. 144-158). New York: Bruner/Mazel.
- Tronick, E. (1981). Infant communicative intent: The Infant's reference to social interaction. In R. Stark (Ed.), Language behavior in infancy. New York: Elsevier.
- Tronick, E. Z., Ricks, M., & Cohn, J. F. (1982). Maternal and infant affective exchange: Patterns of adaptation. In T. Field & A. Fogel (Eds.), Emotion and interaction: Normal and high risk infants. Hillsdale, NJ: Erlbaum.
- Tronick, E. Z. (Ed.), (1982). Social interchange in infancy. Baltimore: University Park Press.
- Tronick, E. Z., Krafchuk, E., Ricks, M., Cohn, J. & Winn, S. (1985). Mother-infant: Face-to-face interaction at 3, 6, and 9 months: Content and matching. Submitted to Child development.
- Tronick, E., Cohn, J., & Shea, E. (1986). The transfer of affect between mothers and infants. In T. B. Brazelton & M. W. Yogman (Eds.), Affective development in infancy. Norwood, NJ: Ablex.
- Tronick, E. Z., & Gianino, A. (1986). Interactive mismatch and repair: Challenges to the coping infant. Zero To Three, VI, 1-6.
- Weissman, M. M., Paykel, E. S. & Klerman, G. L. (1972), The depressed woman as a mother. Social Psychiatry. 7, 98-108.
- White, R. (1959). Motivation reconsidered: The concept of competence. The Psychological Review, 66, 297-333.
- Winnicott, D. W. (1965). The maturational processes and the facilitating environment. New York: International Universities Press, 1965.
- Winnicott, D. W. (1960). The theory of the parent-infant relationship. International Journal of Psycho-Analysis, 41, 585-595.
- Winnicott, D. W. (1964). The child, the family, and the outside world. Baltimore: Penguin Books.
- Winnicott, D. W. (1971). Playing and Reality. New York: Basic Books.

APPENDIX A
MATERNAL SELF-REPORT INVENTORY

MATERNAL SELF-REPORT INVENTORY

Please note how accurately the following statements describe how you feel. Read each item carefully and when you are sure you understand it, indicate your answer by drawing a circle around the answer which best expressed the degree to which the statement is true for you.

Rate each statement as follows:

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True

For example, circle CF if you feel that statement is completely false, circle MF if the statement is mainly false, circle MT if the statement is mainly true, and circle CT if the statement is completely true. If you are uncertain or feel that the statement is neither true nor false, then circle Un.

Please answer each item as honestly as you can, and work rapidly as first impressions are as good as any. Try to answer every question, and if in doubt, circle the answer which comes closest to expressing your feelings. Although some of the statements seem to be similar, they are not identical, and should be rated separately. All of your answers will be treated with complete confidentiality. There are no right or wrong answers, so please answer according to your own feelings. If you have any questions or comments to make, please feel free to note them at the end of the questionnaire. Your comments are very much appreciated.

Thank you very much.

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
1. I feel that being a mother will be a very rewarding experience.			CF	MF Un MT CT
2. Feeding my baby is fun.			CF	MF Un MT CT
3. I am quick to learn new things.			CF	MF Un MT CT
4. My baby is very fragile and I worry that I might be too rough with him/her.			CF	MF Un MT CT
5. I am dissappointed with the sex of my baby.			CF	MF Un MT CT
6. All in all, I'm quite satisfied with who I am.			CF	MF Un MT CT
7. I feel confident about my being able to satisfy my baby's physical needs.			CF	MF Un MT CT
8. I am very sensitive to disapproval.			CF	MF Un MT CT
9. I found the experience of labor and delivery to be one of the most unpleasant experiences I've ever had.			CF	MF Un MT CT
10. I have never felt that I was punished without cause.			CF	MF Un MT CT
11. I succeed at most things that I attempt.			CF	MF Un MT CT
12. I feel confident about being able to know what my baby wants.			CF	MF Un MT CT
13. I expect I will be at least as good a mother as my mother was.			CF	MF Un MT CT
14. I feel unable to give my baby the love and care he/she needs.			CF	MF Un MT CT
15. I do not mind having to sacrifice my own present activities in order to stay at home with my baby.			CF	MF Un MT CT
16. I think that I will be a good mother.			CF	MF Un MT CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
17. I'm an easy person to like.			CF MF Un MT CT	
18. I felt emotionally "empty" after delivering my baby.			CF MF Un MT CT	
19. My baby's father was very happy with the sex of our baby.			CF MF Un MT CT	
20. I am confident that I will have a close and warm relationship with my baby.			CF MF Un MT CT	
21. I regard myself as a highly ethical person.			CF MF Un MT CT	
22. This is a very happy time in my life.			CF MF Un MT CT	
23. I don't have much confidence in my ability to help my baby learn new things.			CF MF Un MT CT	
24. I frequently do things that I later feel guilty about.			CF MF Un MT CT	
25. If it is true that breast feeding is important it is because it brings the mother and baby closer together.			CF MF Un MT CT	
26. I sometimes feel very angry when a baby won't stop crying.			CF MF Un MT CT	
27. I expect my relatives will be proud of me and my new baby.			CF MF Un MT CT	
28. I like the way I look.			CF MF Un MT CT	
29. I am not very good at getting people to do as I wish.			CF MF Un MT CT	
30. I was overjoyed when I first saw my baby.			CF MF Un MT CT	
31. Looking forward to having a baby gave me more pleasure than actually having one.			CF MF Un MT CT	
32. I am sure that my baby's father really wants this baby.			CF MF Un MT CT	

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
33. I am concerned about "losing my figure" after having had a baby.			CF	MF Un MT CT
34. I felt slightly depressed and "blue" after delivery.			CF	MF Un MT CT
35. I can handle almost any important problem I am faced with.			CF	MF Un MT CT
36. I have real doubts about whether my baby will develop normally.			CF	MF Un MT CT
37. I sometimes say things that are not completely true.			CF	MF Un MT CT
38. Self-control is no problem for me.			CF	MF Un MT CT
39. I think my baby is very beautiful.			CF	MF Un MT CT
40. I feel reasonably competent in taking care of my new baby.			CF	MF Un MT CT
41. I am an independent person.			CF	MF Un MT CT
42. I worry that feeding my baby will be a burden for me.			CF	MF Un MT CT
43. I tend to assume that people will not like me.			CF	MF Un MT CT
44. I was extremely pleased when I found out I was pregnant.			CF	MF Un MT CT
45. At elections I have sometimes voted for people about whom I know very little.			CF	MF Un MT CT
46. I have been endowed with a strong and healthy body.			CF	MF Un MT CT
47. Having to bathe my baby makes me very nervous since they are so hard to handle.			CF	MF Un MT CT
48. In general, I don't worry about my own health interfering with my ability to care for my baby.			CF	MF Un MT CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
49. My mother was rarely affectionate to me and I worry that I will not be able to be affectionate with my baby.			CF	MF Un MT CT
50. I lack firm guiding principles.			CF	MF Un MT CT
51. I like myself.			CF	MF Un MT CT
52. I am worried that I will have difficulty changing my baby's diapers.			CF	MF Un MT CT
53. I am lacking in will power.			CF	MF Un MT CT
54. I look forward to taking my baby home.			CF	MF Un MT CT
55. I tend to be good at physical activities, such as dancing and sports.			CF	MF Un MT CT
56. I think I am at least as good looking now as I was before I got pregnant.			CF	MF Un MT CT
57. I would rather win than lose in a game.			CF	MF Un MT CT
58. I doubt that I will be able to satisfy my baby's emotional needs.			CF	MF Un MT CT
59. I found the delivery experience to be very frightening and unpleasant.			CF	MF Un MT CT
60. The thought of holding and cuddling my baby is very appealing to me.			CF	MF Un MT CT
61. I have someone close to me with whom I can share my concerns.			CF	MF Un MT CT
62. I worry whether I am healthy enough to take care of new baby properly.			CF	MF Un MT CT
63. I have little respect for myself.			CF	MF Un MT CT
64. When I found out I was pregnant, I had mixed feelings about having a baby.			CF	MF Un MT CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
65. I often worry that I may be forgetful and cause something bad to happen to my baby.			CF MF Un MT CT	
66. When I bring my baby home I will have enough help in caretaking and housework responsibilities.			CF MF Un MT CT	
67. I feel like I am (or will be) a very good mother.			CF MF Un MT CT	
68. I have at least as much self-control as most people.			CF MF Un MT CT	
69. I have no anxieties about all the things mother's have to do.			CF MF Un MT CT	
70. I become ill quite easily.			CF MF Un MT CT	
71. I feel emotionally prepared to take good care of my baby.			CF MF Un MT CT	
72. I have never felt like saying something that would hurt someone's feelings.			CF MF Un MT CT	
73. When I first saw my baby I was disappointed.			CF MF Un MT CT	
74. I feel that something I did during my pregnancy may have caused (or will cause) problems for my baby.			CF MF Un MT CT	
75. I have some unique contributions which I alone can make to my baby's life.			CF MF Un MT CT	
76. I am confident that I will be able to work out any normal problems I might have with my baby.			CF MF Un MT CT	
77. I am ashamed of my physical appearance.			CF MF Un MT CT	
78. I will not mind getting up in the middle of the night to feed my baby.			CF MF Un MT CT	

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
79. I am concerned that I will have trouble figuring out what my baby needs.			CF	MF Un MT CT
80. I missed the feeling of being pregnant after delivering my baby.			CF	MF Un MT CT
81. I feel I don't relate well to little babies.			CF	MF Un MT CT
82. I feel as though I have plenty of energy to take care of my baby.			CF	MF Un MT CT
83. I have a firm sense of what is right and wrong, and act accordingly.			CF	MF Un MT CT
84. When I was pregnant, I eagerly awaited the birth of my baby.			CF	MF Un MT CT
85. I worry about whether my baby will like me.			CF	MF Un MT CT
86. I feel guilty about bringing a baby into this troubled world.			CF	MF Un MT CT
87. I have an inferiority complex.			CF	MF Un MT CT
88. I feel competent at being able to feed my baby.			CF	MF Un MT CT
89. My mother was a very caring and loving person and I expect that I will also be a very loving mother.			CF	MF Un MT CT
90. I expect that I won't mind staying at home to care for my baby.			CF	MF Un MT CT
91. I do not like the way I look after having had my baby.			CF	MF Un MT CT
92. I sometimes doubt that anyone who really mattered to me could love me the way I am.			CF	MF Un MT CT
93. I found the delivery experience to be very exciting.			CF	MF Un MT CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
94. Others often follow my lead.			CF MF Un MT CT	
95. I feel like I am (or will be) a failure as a mother.			CF MF Un MT CT	
96. I need more time to adjust to my baby.			CF MF Un MT CT	
97. I am concerned about whether my baby will develop normally.			CF MF Un MT CT	
98. Most people like me.			CF MF Un MT CT	
99. I am not very good at calming my baby.			CF MF Un MT CT	
100. I took good care of myself during my pregnancy.			CF MF Un MT CT	
101. I never feel like spanking a crying baby.			CF MF Un MT CT	
102. I'm not good at influencing people.			CF MF Un MT CT	
103. I doubt that my baby could love me the way I am.			CF MF Un MT CT	
104. It really makes me feel depressed to think about all there is to do as a mother.			CF MF Un MT CT	
105. My father made me feel very loved, and I think I too can show my baby love and affection.			CF MF Un MT CT	
106. I often worry about my physical health.			CF MF Un MT CT	
107. I am enthusiastic about taking responsibility for caring for my baby.			CF MF Un MT CT	
108. I have not been able to share my concerns about my baby with anyone close to me.			CF MF Un MT CT	
109. I worry that I will not know what to do if my baby gets sick.			CF MF Un MT CT	
110. I have always been courteous, even to people who have disagreeable to me.			CF MF Un MT CT	

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>			
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True			
111.	I worry about whether my house is large enough for my baby.		CF	MF	Un	MT	CT
112.	It is difficult for me to know what my baby wants.		CF	MF	Un	MT	CT
113.	I feel that I am too good a mother to ever lose my temper with my baby.		CF	MF	Un	MT	CT
114.	I found the whole experience of labor and delivery to be one of the best experiences of my life.		CF	MF	Un	MT	CT
115.	I am very satisfied with my relationship with my baby's father.		CF	MF	Un	MT	CT
116.	I tend to be awkward in most physical activities.		CF	MF	Un	MT	CT
117.	I think I will enjoy my baby more when he/she is older and has a personality of his/her own.		CF	MF	Un	MT	CT
118.	I am afraid I will be awkward and clumsy when handling my baby.		CF	MF	Un	MT	CT
119.	I am not worried about having enough money to care for my baby.		CF	MF	Un	MT	CT
120.	I am not a nice person.		CF	MF	Un	MT	CT
121.	I looked forward to breast feeding my baby.		CF	MF	Un	MT	CT
122.	This is a very stressful time in my life.		CF	MF	Un	MT	CT
123.	I am worried that I will be criticized for not taking proper care of my baby.		CF	MF	Un	MT	CT
124.	I feel that I am a physically attractive person.		CF	MF	Un	MT	CT
125.	I feel that I have lots of love to give to my baby.		CF	MF	Un	MT	CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>			
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True			
126.	I feel confident about being able to teach my baby new things.		CF	MF	Un	MT	CT
127.	I feel that my parents did a very bad job raising me and I am sure that I will not make the same mistakes with my baby.		CF	MF	Un	MT	CT
128.	I have a low opinion of myself.		CF	MF	Un	MT	CT
129.	I am concerned that my baby's father will pay more attention to the baby than to me.		CF	MF	Un	MT	CT
130.	I am confident that my baby will be strong and healthy.		CF	MF	Un	MT	CT
131.	I am frightened about all the day-to-day responsibilities of having to care for my baby.		CF	MF	Un	MT	CT
132.	I found labor to be very frightening.		CF	MF	Un	MT	CT
133.	I am concerned about whether my baby will develop normally.		CF	MF	Un	MT	CT
134.	I am bothered by my lack of self-control.		CF	MF	Un	MT	CT
135.	I am not easily dominated by others.		CF	MF	Un	MT	CT
136.	It will take me a long time to get back my energy so that I can properly care for my baby.		CF	MF	Un	MT	CT
137.	I have great expectations for what my baby will be like.		CF	MF	Un	MT	CT
138.	I am worried about being able to feed my baby properly.		CF	MF	Un	MT	CT
139.	I expect I will have plenty of emotional support while taking care of my baby.		CF	MF	Un	MT	CT
140.	There are very few things that I can honestly say I am good at.		CF	MF	Un	MT	CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
141. I am concerned that my relatives will be disappointed with my baby.			CF	MF Un MT CT
142. When I was pregnant, I had frightening fantasies that I would deliver an abnormal baby.			CF	MF Un MT CT
143. I am well coordinated physically.			CF	MF Un MT CT
144. I felt emotionally prepared for my baby's birth.			CF	MF Un MT CT
145. I doubt that my figure will ever look as good after having had a baby.			CF	MF Un MT CT
146. I have sometimes been irritated by people asking favors of me.			CF	MF Un MT CT
147. I am afraid that someday I will hurt my baby.			CF	MF Un MT CT
148. I do not find being a mother to be as fulfilling an experience as I thought it would be.			CF	MF Un MT CT
149. No matter who I'm talking to, I'm always a good listener.			CF	MF Un MT CT
150. As long as I love my baby, it doesn't matter if I breast feed or bottle feed.			CF	MF Un MT CT
151. I feel that I am a person of worth.			CF	MF Un MT CT
152. I did not like my mother and I worry that my baby will not like me.			CF	MF Un MT CT
153. My baby's father needs more time to adjust to the baby.			CF	MF Un MT CT
154. I feel somewhat anxious about all the things a mother must do.			CF	MF Un MT CT
155. I always practice what I preach.			CF	MF Un MT CT

<u>CF</u>	<u>MF</u>	<u>Un</u>	<u>MT</u>	<u>CT</u>
Completely False	Mainly False	Uncertain or Neither True or False	Mainly True	Completely True
156.	I feel that I will do a good job taking care of my baby.			
			CF	MF Un MT CT
157.	I do not feel emotionally secure enough to care for my baby by myself.			
			CF	MF Un MT CT
158.	I think most fathers are more excited and helpful in taking care of their new baby than my baby's father.			
			CF	MF Un MT CT
159.	I know enough to be able to teach my baby many things which he/she will have to learn.			
			CF	MF Un MT CT
160.	I have sometimes felt resentful about not getting my way.			
			CF	MF Un MT CT
161.	I felt I looked very good during my pregnancy.			
			CF	MF Un MT CT
162.	I worry about being able to fulfill my baby's emotional needs.			
			CF	MF Un MT CT
163.	My inability to resist temptation is a source of concern for me.			
			CF	MF Un MT CT
164.	I am confident that my baby will love me very much.			
			CF	MF Un MT CT
165.	I have mixed feelings about being a mother.			
			CF	MF Un MT CT
166.	Presently, my greatest concern is:			

Comments:

APPENDIX B

RICKS' MATERNAL SENSITIVITY AND RESPONSIVITY SCALES

MATERNAL SENSITIVITY AND RESPONSIVITY

ELABORATION7. Consistent elaboration throughout the interaction.

mother appears aware of and responsive to her infant's initiation throughout. She seems to read infant's signals skillfully, even infant's subtle, minimal cues. She acknowledges (by elaboration) every action of the infant's exaggerating her responses to infant's engagement and by turning to infant's object of attention or smoothly regaining infant's attention when infant averts.

6. Consistent elaboration of all but a few minimal infant signals.

Infant's clear signals are not ignored, but on one or two occasions, infant's minimal signals fail to meet with an appropriate response.

5. Marked elaboration.

Some ignoring, overriding, or minimal response to infant activity in the absence of any indication that it would be persistent. A score of "5" reflects one almost accidental override or ignoring of infant activity or a few minimal

responses to infant activity.

4. Inconsistent elaboration.

Mother usually responds to infant's activity or initiative with elaboration though on more than two occasions she overrides or ignores infant initiative. Thus, her side of the interaction is a mixture of appropriate responsiveness and either minimal or inappropriate responsiveness. To get a score of "4", mother should either ignore or override at least one very clear infant action (example: 3 month old's vocalizations, 6 month old's shoe play, 9 month old's hand wave) or more persistently fail to elaborate minimal cues.

3. Some elaboration.

Mother responds with appropriate elaboration to some infant activity, but otherwise behaves as in "2".

2. Very little elaboration

Mother acknowledges at least some infant activity: her response is consistently inappropriate, (i.e., "adult" comments on infant activity) or consistently minimal, or absent throughout most of the interaction. On some occasions, however, she does respond to and elaborate infant activity.

1. No elaboration.

Mother does not elaborate infant activity. She may ignore or override infant activity or withdraw from the interaction, but the important point is that the mother does not acknowledge or comment on infant activity. She neither imitates nor expands on the infant's behavior. Her behavior may appear to follow her own program, and not to be contingent on the infant's.

OVERCONTROLLING

7. Persistent and strong overcontrolling.

Mother intrudes rapidly (within two seconds) on infant averts and overrides infant activity throughout the interaction. She shows two or more instances of overcontrolling behavior. Strong instances are those in which the baby has no choice but to attend: mother moves the infant's body or head to face her or mother uses a loud abrupt voice, or mother makes movements (hand or facial) or noises close to the baby's face.

examples:

a. Mother persistently escalates her behavior when infant

averts and in one instance brings infant's body or head in line with her within two seconds or an avert.*

b. Mother persistently escalates as in "a" and in addition ignores or interrupts at least one infant activity.

c. When infant averts, mother persistently makes proximal movements (with her hands) or uses her voice in such a way as to allow the infant no choice but to attend.

* Does not refer to postural adjustments when infant is slumped in chair.

6. Strong overcontrol. not as marked as in "7"

5. Persistent or strong overcontrol.

Mother is somewhat overcontrolling throughout most of the interaction and shows one strong instance of overcontrolling behavior.

4. Isolated and clearcut instances of overcontrol

3. Brief or mild overcontrol.

If the observer to change the interaction it would be in the

direction of asking mother to pull back, be less active. Mother shows one mild or brief instance of overcontrolling behavior. For example, she shows one very intrusive use of her hands or voice. This instance must be mild enough to allow the infant a choice of attending or ignoring it. Similarly, if mother interrupts an ongoing activity of the infant's, use a higher score.

2. Brief and mild overcontrol.

1. No overcontrol.

UNDERCONTROL

7. Marked and persistent undercontrol

When infant averts, mother withdraws from the interaction; when infant attends to her, mother does not organize infant's attention. Mother may seem at a loss throughout most of the interaction, becoming bright-faced and engaged only when the infant looks at her.

Example:

a. Mother starts and does not finish actions; she is hesitant during most of the segment.

b. Mother sits watching the infant for relatively long (5 sec.) periods of time and does so with a neutral face, not talking, motioning, or otherwise engaging in interaction.

c. when infant averts, mother withdraws, literally or figuratively, from the interaction. She pulls back, lapses into an "adult" tone of voice, or her face loses its brightness and her voice becomes quiet or uncertain.

6. Marked undercontrol. Not as clearcut or persistent as "7".

5. Persistent or strong undercontrol.

Mother initiates a game or structures the infant's attention at least once without hesitation, but shows marked withdrawal or hesitation more than once, or she is consistently but less markedly undercontrolling.

Examples:

a. Mother shows two instances of withdrawal or hesitation, but these are not prolonged or clearcut enough to warrant a higher score.

b. Mother watches infant while infant is looking at her neutrally for more than two seconds.

c. Mother withdraws briefly on an infant avert and in addition shows one instance of hesitation or neutral looking at the infant while the infant is looking at her.

4. Isolated and clearcut instances of undercontrol.

One instance of undercontrol: a hesitation, withdrawal, or watch occurs, but no more. In the rest of the interaction there is no such indication of an undercontrolling style.

2. Brief and mild undercontrol.

1. No undercontrol.

APPENDIX C

DENHAM'S CODING OF EMOTIONS OF MOTHER

CODING OF EMOTIONS OF MOTHER

(TO BE USED IN NATURALISTIC SITUATIONS WHERE
FINER-GRAINED SYSTEMS SUCH AS FACS OF AFFEX ARE NOT USEABLE
AND/OR DESIRABLE

Category definition

Happy Behavioral: Expresses enjoyment by smiles, humming, singing, waving arms, bouncing, laughter, playful teasing.

facial: In a smile, the corners of the mouth turn upward, and are not pulled straight backward; eyes partially closed, teeth covered by lips or only partly visible. (Distinguishable from grin face, in which the lips are spread wide and the mouth corners are retracted, both rows of teeth are visible and close together. Crow's-feet wrinkles go outward from the outer corner of the eyes).

Vocalic: Voice moves up and down in pitch freely, sounds "pearly" and relaxed. Movement from one syllable to the next is smooth not abrupt.

Neutral Emotion display is too low level to be coded elsewhere; impact on observer may be either positive or negative.

Tense Behavioral: Unable to relax, acts uncertain, or shy. Mother may show muscular tension, appear anxious or questioning, and maintain a vigilant posture.

facial: Brows are tight, raised and drawn together.

Vocalic: Voice is very high pitched and unvarying in pitch.

BIBLIOGRAPHY

- Als, H., Tronick, E., & Brazelton, T. B. (1979). Analysis of face-to-face interaction in infant-adult dyads. In M.E. Lamb, S. J. Suomi, & G. R. Stephenson (Eds.), Social interaction analysis: Methodological issues. (pp. 33-77). Madison, WI: University of Wisconsin.
- Ainsworth, M. D. S., Bell, S., & Stayton, D. Infant-mother attachment and social development: "Social action" as a product of reciprocal responsiveness to signals. In M. P. M. Richards (Ed.), The integration of a child into a social world. London: Cambridge University Press.
- Balint, M. (1965). Primary love and psycho-analytic technique. New York: Liveright Publishing.
- Brazelton, T. B., Koslowski, B., & Main, M. (1974). The origins of reciprocity: The early mother-infant interaction. In M. Lewis & Rosenblum (Eds.), The effect of the infant on its caregiver. New York: Wiley-Intersciences.
- Brazelton, T. B., Tronick, E., Adamson, L., Als, H., & Wise, S. (1975). Early mother-infant reciprocity. In Ciba Foundation Symposium 33 Parent-infant interaction. New York: Associated Scientific Publishers.
- Brazelton, T. B., & Yogman, M. W. (1986). Reciprocity, attachment, and effectance: Anlage in early infancy. In T. B. Brazelton & M. W. Yogman (Eds.), Affective development in infancy. Norwood, NJ: Ablex.
- Chodorow, N. (1974). Family structure and feminine personality. In M. Z. Rosaldo and L. Lamphere (Eds.), Women culture and society. (pp 43-66). Stanford: Stanford University Press.
- Chodorow, N. (1978). The reproduction of mothering: psychoanalysis and the sociology of gender. Berkeley: University of California Press.
- Cohen, J. (1960). A coefficient of agreement for nominal scales. Educational and Psychological Measurement, 20, 37-47.
- Cohn, J. F., & Tronick, E. (1982). Communicative rules and the sequential structure of infant behavior during normal and depressed interaction. In E. Tronick (Ed.), Social interchange in infancy: affect, cognition and communication. Baltimore: University Park Press.
- Cohn, J. F., & Tronick, E. (1982). Three-month old infants reaction to simulated maternal depression. Child Development, 54, 185-193.

- Cohn, J. F., Matias, R., Connell, D., & Lyons-Ruth, K. (1985). At-risk infants: Face-to-face interaction and developmental differences. Presented at the Biennial meeting of the Society for Research in Child Development, Toronto, Ontario, April.
- Crnic, K. A., Greenberg, M. T., Robinson, N. M. & Ragozin, A. S. (1984). Maternal stress and social support: Effects on the mother-infant relationship from birth to eighteen months. Amer. J. Orthopsychiat., 54, 224-235.
- Crittenden, P. M., & Bonvillian, J. D. (1984). The relationship between maternal risk status and maternal sensitivity. Amer. J. Orthopsychiat., 54, 250-262.
- Denham, S. A. (1985). Emotional dialogue between toddlers and their mothers and its influence on child social-emotional competence. Unpublished doctoral dissertation, University of Maryland, 1985.
- Emde, R. N. (1984). Levels of meaning for infant emotions: A biosocial view. In K. R. Scherer & Ekman, P. (Ed.), Approaches to emotion. (pp. 77-107). Hillsdale, NJ: Erlbaum.
- Fairbairn, W. R. D. (1952). An object-relations theory of personality. New York: Basic Books.
- Gianino, A. F. (1985). Individual differences in infant response to an interpersonal stress at six months. Unpublished doctoral dissertation, University of Massachusetts, Amherst.
- Gilligan, C. (1982). In a different voice. Cambridge, MA: Harvard University Press.
- Huizenga, J. N. (1983). The relationship of self-esteem and narcissism. In J. E. Mack & S. L. Ablon (Eds.), The development and sustenance of self-esteem in childhood. New York: International Universities Press.
- Kegan, R. (1982). The evolving self. Cambridge, MA: Harvard University Press.
- Mahler, M. S., Pine, F., & Bergman, A. (1975). The psychological birth of the human infant. New York: Basic Books.
- Malatesta, C. Z. (1985). Facial expressions of infants and mothers during early interaction. Presented at the Biennial meeting of the Society for Research in Child Development, Toronto, Ontario, April.

Mack, J. E. (1983) Self-esteem and its development: An overview. In J. E. Mack & S. L. Ablon (Eds.), The development and sustenance of self-esteem in childhood. New York: International Universities Press.

Massie, H. N. (1978). The early natural history of childhood psychosis: 10 cases studied by analysis of family home movies of the infancies of the children. Journal of American Academy of Child Psychiatry, 17, 29-45.

Ricks, M., Noyes, D., & Tronick, E. Z. (1981). Secure babies have secure mothers. Unpublished manuscript, University of Massachusetts, Amherst, 1981.

Sander, L. W. (1962). Issues in Early Mother-Child Interaction. Journal of the American Academy of Child Psychiatry, 1, 141-166.

Sander, L. W. (1977) Regulation of exchange in the infant caretaker system: A viewpoint of the ontogeny of "structures". In N. Freedman & S. Grand (Eds.), Communicative structures and psychic structure. (pp.13-34). New York: Plenum Press.

Sander, L. W. (1983). Polarity, paradox, and the organizing process in development. In J. D. Call, E. Galenson, & R. L. Tyson (Eds.), Frontiers of infant psychiatry. (pp.333-346). New York: Basic Books.

Shea, E. M. (1982). The development and evaluation of a scale to measure maternal self-esteem. Unpublished manuscript, University of Massachusetts, Amherst.

Stern, D. N. (1977). The first relationship. Cambridge, MA: Harvard University Press.

Stern, D. N. (1985). The interpersonal world of the infant. New York: Basic Books.

Sullivan, H. S. (1953). The interpersonal theory of psychiatry. New York: W. W. Norton.

Trevarthen, C. (1977). Descriptive analyses of infant communicative behaviour. In H. R. Schaffer (Ed.), Studies in mother-infant interaction (pp. 227-270). London: Academic Press.

Trevarthen, C. (1984). Emotions in infancy: Regulators of contact and relationships with persons. In K. R. Scherer & P. Ekman (Eds.), Approaches to emotion. (pp.129-157). Hillsdale, NJ: Erlbaum.

- Tronick, E. (1980). On the primacy of social skills. In D.B. Sawin, L. O. Walker, & J. H. Penticuff (Eds.), The exceptional infant, Vol 4: Psychosocial risks in infant-environment transaction. (pp. 144-158). New York: Bruner/Mazel.
- Tronick, E. (1981). Infant communicative intent: The Infant's reference to social interaction. In R. Stark (Ed.), Language behavior in infancy. New York: Elsevier.
- Tronick, E. Z., Ricks, M., & Cohn, J. F. (1982). Maternal and infant affective exchange: Patterns of adaptation. In T. Field & A. Fogel (Eds.), Emotion and interaction: Normal and high risk infants. Hillsdale, NJ: Erlbaum.
- Tronick, E. Z. (Ed.), (1982). Social interchange in infancy. Baltimore: University Park Press.
- Tronick, E. Z., Krafchuk, E., Ricks, M., Cohn, J. & Winn, S. (1985). Mother-infant: Face-to-face interaction at 3, 6, and 9 months: Content and matching. Submitted to Child development.
- Tronick, E., Cohn, J., & Shea, E. (1986). The transfer of affect between mothers and infants. In T. B. Brazelton & M. W. Yogman (Eds.), Affective development in infancy. Norwood, NJ: Ablex.
- Tronick, E. Z., & Gianino, A. (1986). Interactive mismatch and repair: Challenges to the coping infant. Zero To Three, VI, 1-6.
- Weissman, M. M., Paykel, E. S. & Klerman, G. L. (1972), The depressed woman as a mother. Social Psychiatry. 7, 98-108.
- White, R. (1959). Motivation reconsidered: The concept of competence. The Psychological Review, 66, 297-333.
- Winnicott, D. W. (1965). The maturational processes and the facilitating environment. New York: International Universities Press, 1965.
- Winnicott, D. W. (1960). The theory of the parent-infant relationship. International Journal of Psycho-Analysis, 41, 585-595.
- Winnicott, D. W. (1964). The child, the family, and the outside world. Baltimore: Penguin Books.
- Winnicott, D. W. (1971). Playing and Reality. New York: Basic Books.

